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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/831,688	07/23/2001	David Anthony Biro	C-463	8411

7590 10/03/2002
Sidney Persley
Sun Chemical Corporation
222 Bridge Plaza South
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EXAMINER

NUTTER, NATHAN M

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 10/03/2002

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/831,688

Applicant(s)

BIRO ET AL.

Examiner

Nathan M. Nutter

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) 20-29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6. 6) ☐ Other:

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-19, drawn to a composition, classified in class 524, subclasses 500, 543, 556, 558, 560, 565, 566 and 602.
- II. Claims 20 and 21, drawn to coating and ink compositions, classified in class 106, subclasses 31.13+, and class 252, subclasses vary.
- III. Claims 22-28, drawn to a method of curing by irradiating a substrate, classified in class 522, subclasses 84 and 86.
- IV. Claim 29, drawn to a maleimide compound, classified in class 549, subclasses 231 and 233.

The inventions are distinct, each from the other because:

Inventions of Group I and of Group II are related as mutually exclusive species in an intermediate-final product relationship. Distinctness is proven for claims in this relationship if the intermediate product is useful to make other than the final product (MPEP § 806.04(b), 3rd paragraph), and the species are patentably distinct (MPEP § 806.04(h)). In the instant case, the intermediate product is deemed to be useful as a protective colloid for the manufacture of other polymers and the inventions are deemed patentably distinct since there is nothing on this record to show them to be obvious variants. Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the

case. In either instance, if the examiner finds one of the inventions anticipated by the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Inventions of Group I, Group II and Group III are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions, as listed, fail to claim the same or corresponding special technical features. The inventions are not disclosed as being capable of use together and possess different characteristics which have different functions and effects, as well as have different modes of operation. The groupings of claims which would be acceptable to provide a Unity of Invention are those as set out in 37 CFR 1.475(b). Note MPEP 1875.01 in this regard.

The Group III invention is drawn to a method of making, but is not drawn to a method that produces either the Group I, Group II or Group IV invention.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

During a telephone conversation with Sidney Persley on 27 September 2002 a provisional election was made with traverse to prosecute the invention of Group I,

claims 1-19. Affirmation of this election must be made by applicant in replying to this Office action. Claims 20-29 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-29 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claims recite a "water compatible compound", which in and of itself, is so broad as to be incomprehensible. The term is not specific as to any solubility factor, whether the "compatibility" is in regard to being unaffected by the presence of water, whether the compound retains its original structure or content in the presence of water or any other factors which would enable one having an ordinary skill in the art as to what may be embraced by this recitation for use in the invention. The term is not art-recognized for any particular class or grouping of compounds, nor is it a

proper Markush group to which members are known or easily ascribed. The determination of what may be usable in this capacity would require the undue burden of experimentation on the part of the artisan. Even with the recitations in the dependent claims, the skilled artisan would still be required to perform undue experimentation to determine what is being claimed by these recitations. Likewise, the recitation in claim 3 of "a compound copolymerizable with the said maleimide derivative" renders the claim, and any dependent thereon, as non-enabling since the identities of the "maleimide derivatives" would necessarily be obtained first, with subsequent experimentation to determine exactly what compounds may then be "copolymerizable therewith".

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims recite the term "water compatible compound" which fails to point out the subject matter that applicants intend to claim. The term is neither an art-recognized term, nor a proper Markush group, as pointed out above. The metes and bounds of the claims cannot be clearly ascertained, as such. There is not sufficient guidance to allow a practitioner to know what may be included thereby. As such, the instant claims are deemed to be vague and confusing. Further, the recitation in claim 3 of "a compound copolymerizable with the maleimide derivative" is vague since the derivative compound

must first be ascertained in order to determine what may be "copolymerizable therewith". In claim 1, the recitation of "energy curable" is not clear as to its proper metes and bounds.

Regarding claims 2 and 12, the phrase "such as" renders the claims indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-19 are rejected under 35 U.S.C. 102(a) as being clearly anticipated by Sakurai et al, newly cited.

The reference to Sakurai et al teaches the manufacture of an irradiation curable coating compositions which may comprise water, a bis-maleimide compound and water compatible compounds, identical to those as herein claimed. Note column 3 (line 41) to column 8 (line 14) for the maleimide compounds, which embrace those of instant claims 6-11 and 19. Note column 4 (lines 13-16) for the specific inclusion of other compounds

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copolymerizable with the maleimide, as recited in instant claims 3 and 16. Note column 13 (line 13) to column 14 (line 30) for the "water compatible compounds", having the identical resins as recited in instant claims 1, 2, 4, 5, 12-15, 17 and 18. Finally, note the claims of the patent.

Claims 1-3 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by McGinniss, cited by applicants.

Note the claims and the Examples which teach the use of a maleimide compound, water and a water-dispersed polymer, which as shown by the examples may include acrylate resins, as herein claimed.

Claims 1-3 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Roth et al, cited by applicants.

The patent to Roth et al teaches the inclusion of water with a maleimide compound and a (meth)acrylate, (meth)acrylamide or a vinyl ether copolymer, as herein claimed. Note the Abstract, column 1 (line 58) to column 2 (line 31) and column 4 (49-68).

Claim 1 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by Wilson, Jr. et al, cited by applicants.

The reference to Wilson, Jr. et al teaches the inclusion of water, a maleimide compound and a water compatible compound. Note the Abstract, column 4 (lines 17 et seq.), column 7 (lines 17 et seq.) and the many examples.

Claim 1 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by Kishino et al, newly cited.

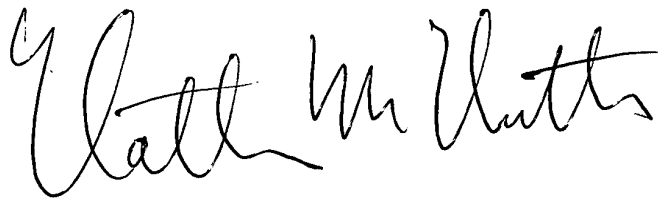
The reference to Kishino et al teaches the inclusion of water, a maleimide compound and acrylonitrile. Note the Abstract and column 7 (line 46) to column 8 (line 37).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan M. Nutter whose telephone number is 703-308-2443. The examiner can normally be reached on Monday-Friday 9:30 am to 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 703-308-2462. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

A handwritten signature in black ink, appearing to read "Nathan M. Nutter". The signature is fluid and cursive, with the first name "Nathan" being more prominent and the last name "Nutter" following in a similar style.

Nathan M. Nutter
Primary Examiner
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nmn
September 29, 2002